

US EPA ARCHIVE DOCUMENT

Barge DBL-152

November 11, 2005

Freshwater Spills Symposium 2009

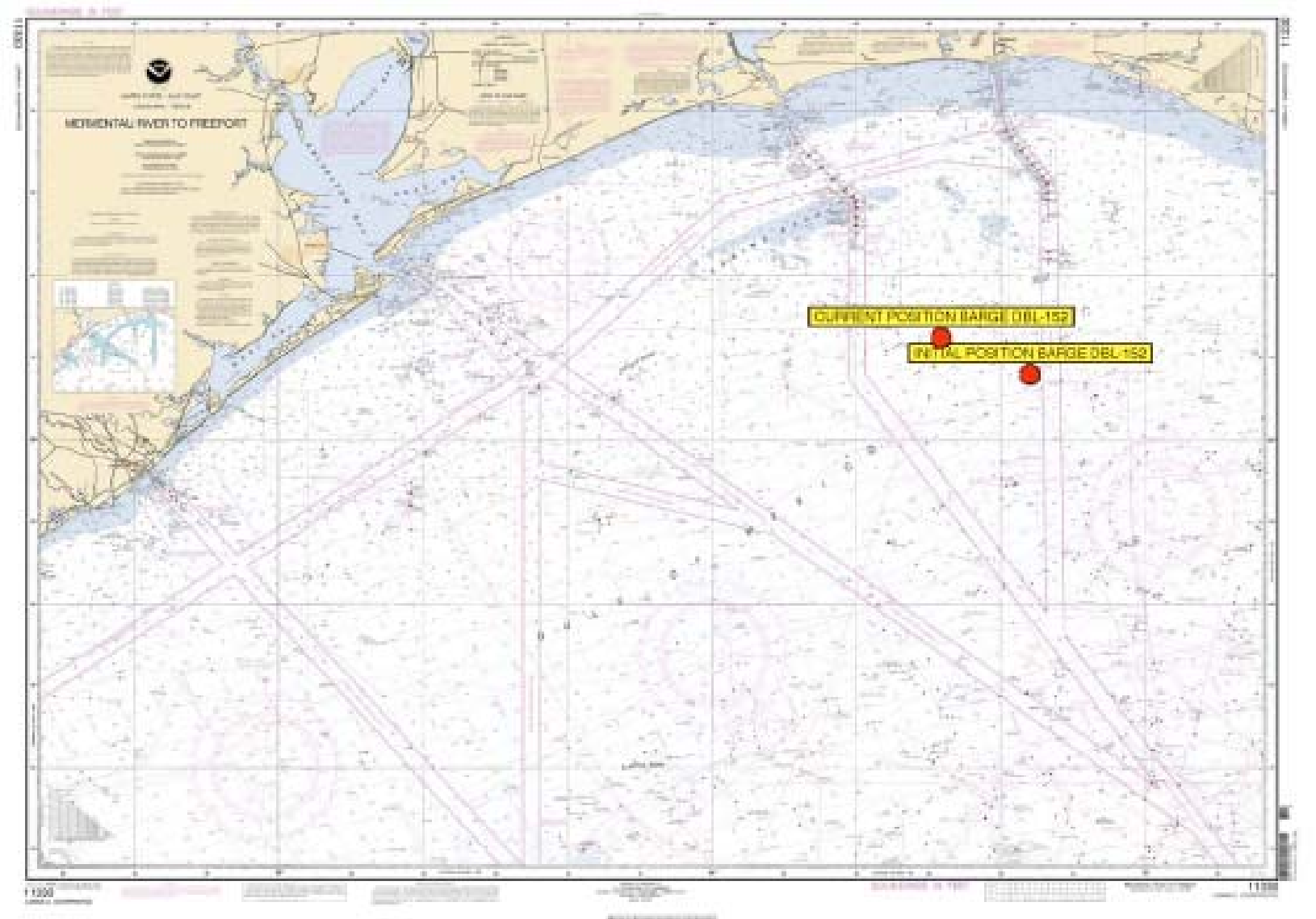
Steve Lehmann

Scientific Support Coordinator

NOAA: Boston, MA

Go Celtics, Bruins and Red Sox





Barge DBL-152

November 11, 2005

- Allision with oil rig sunk by Hurricane Rita
- 30 miles south of Port Arthur, TX
- 3 million gallons (71,400 barrels)
- Slurry Oil
 - Denser than seawater
 - Viscosity of a medium crude oil
- Depth: approx. 50 ft (15 meters)

DBL-152 Cargo

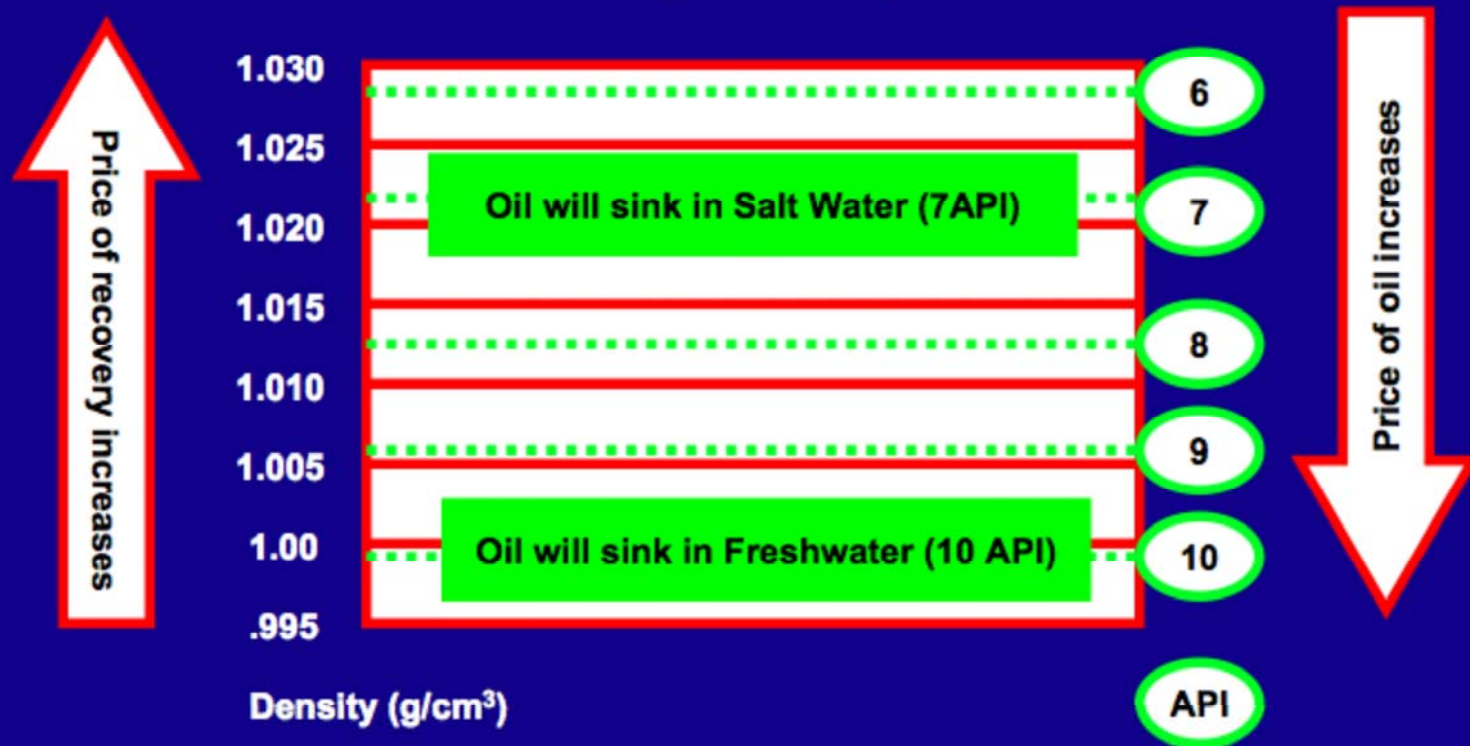
API	barrels
9.7	10,300
3.8	50,700
-2.3	15,500
3.9	41,950
24.6	1,870

91% of the DBL 152 oil released < 4 API



The Recovery Cost Versus Reclaim Value Paradigm

Relatively speaking, the price of an oil product can be judged by its API Density value. The higher the API value, the higher the price of the oil.



Day One



Day Three



Day Five







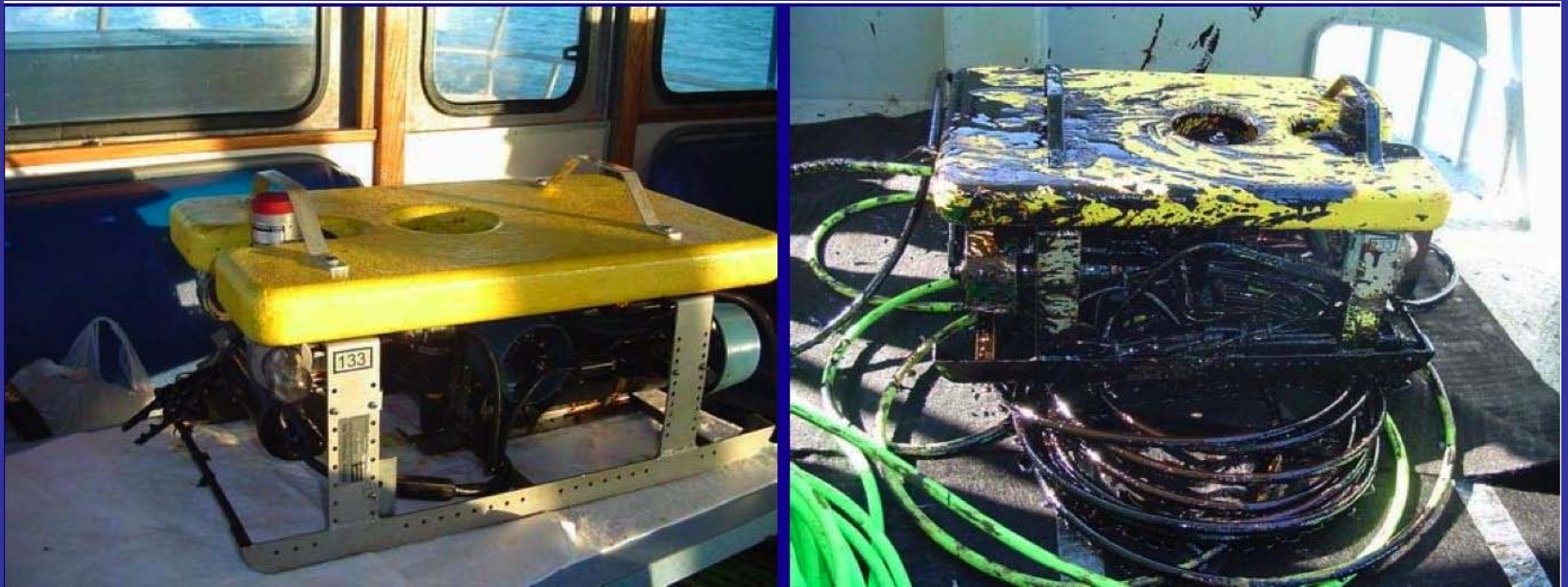


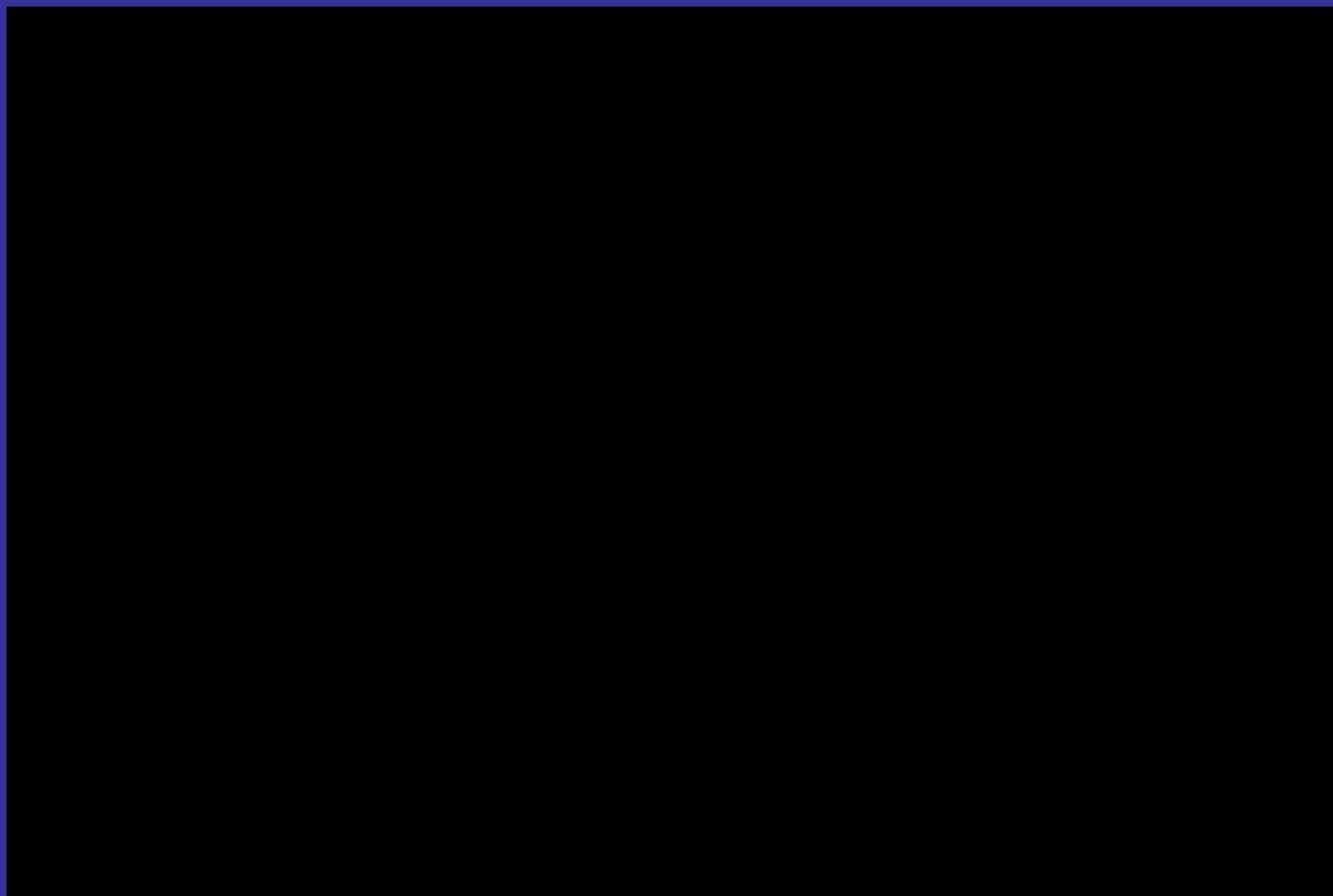
What it looks like.

Oil on the seafloor.



Remotely Operated Vehicles





Finding the Oil

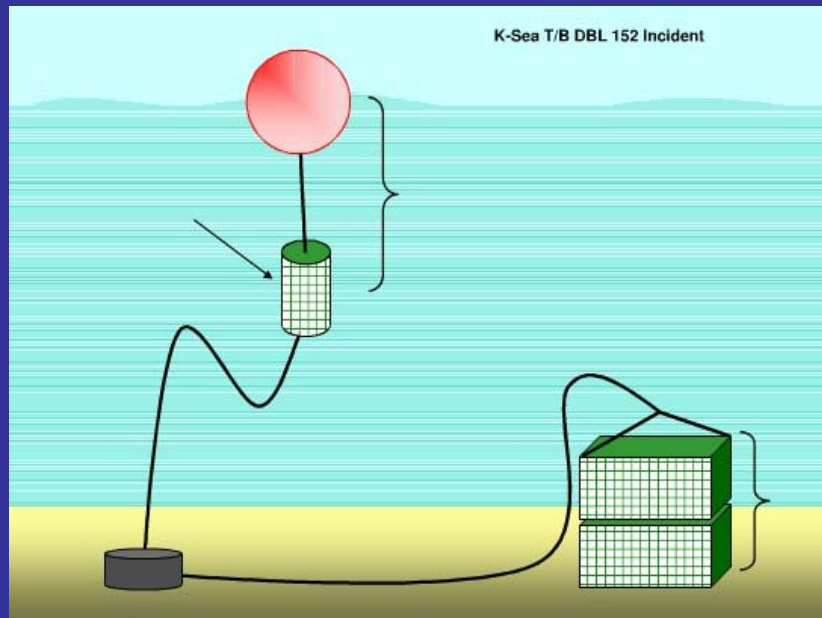


V-SORS



V-SORS “*light*”

Snare Sentinels



Oil “Fence”





Understanding Oil Movement

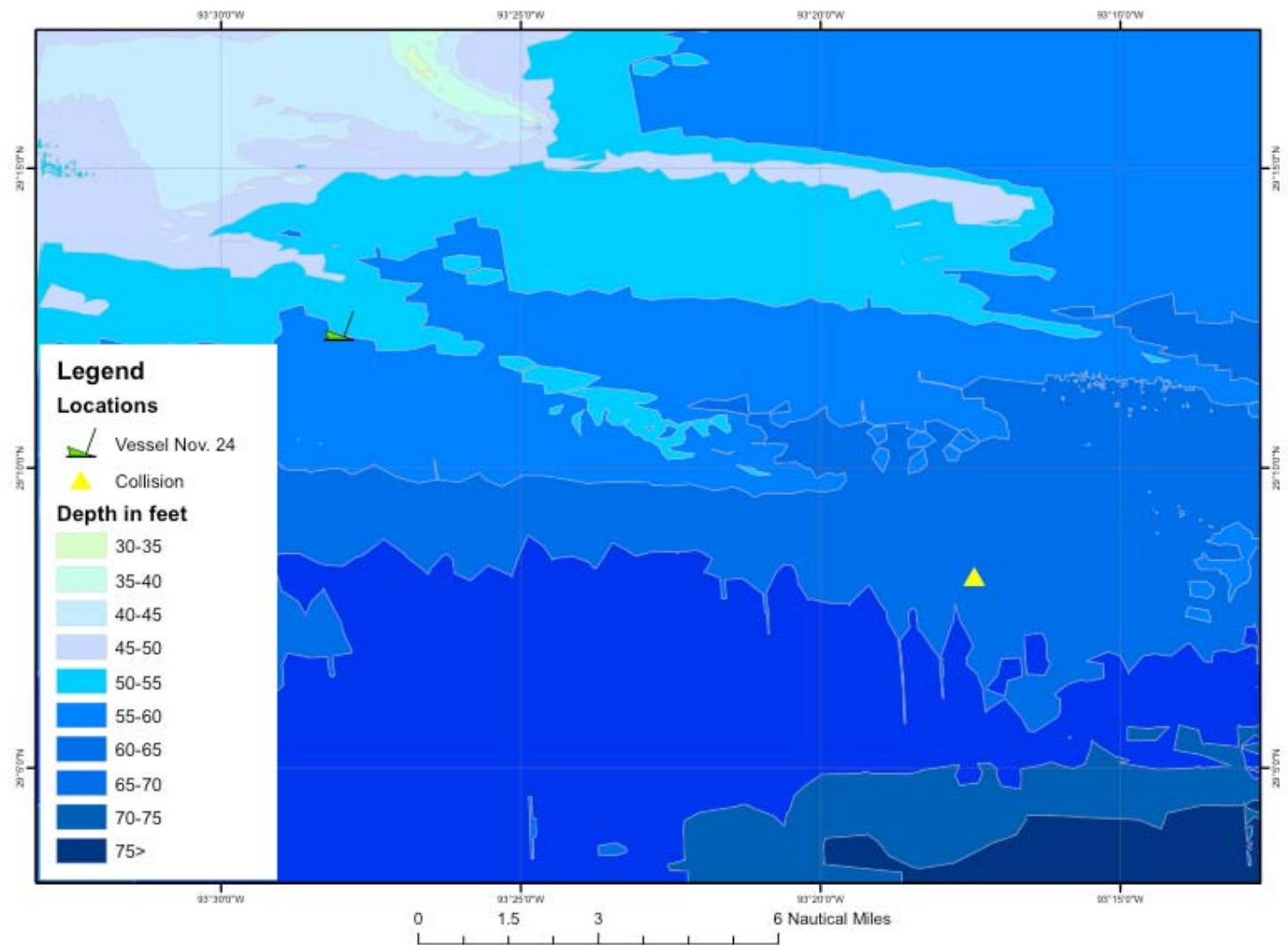


Texas

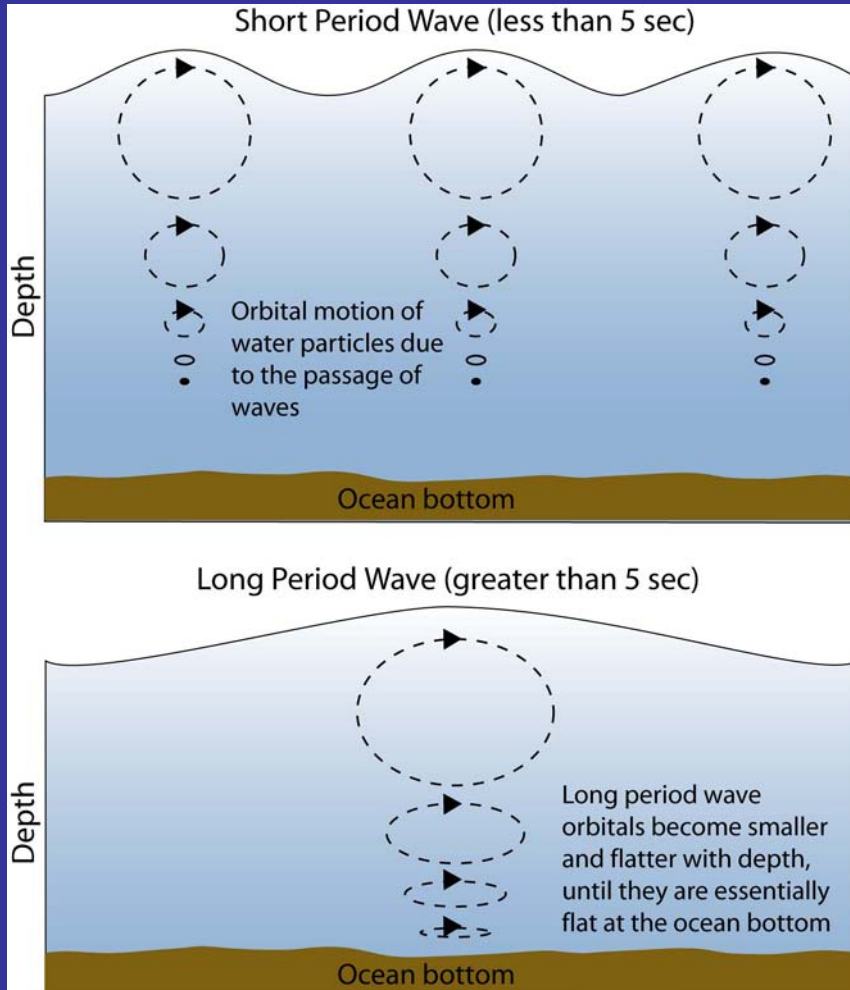
Automated

Buoy

System

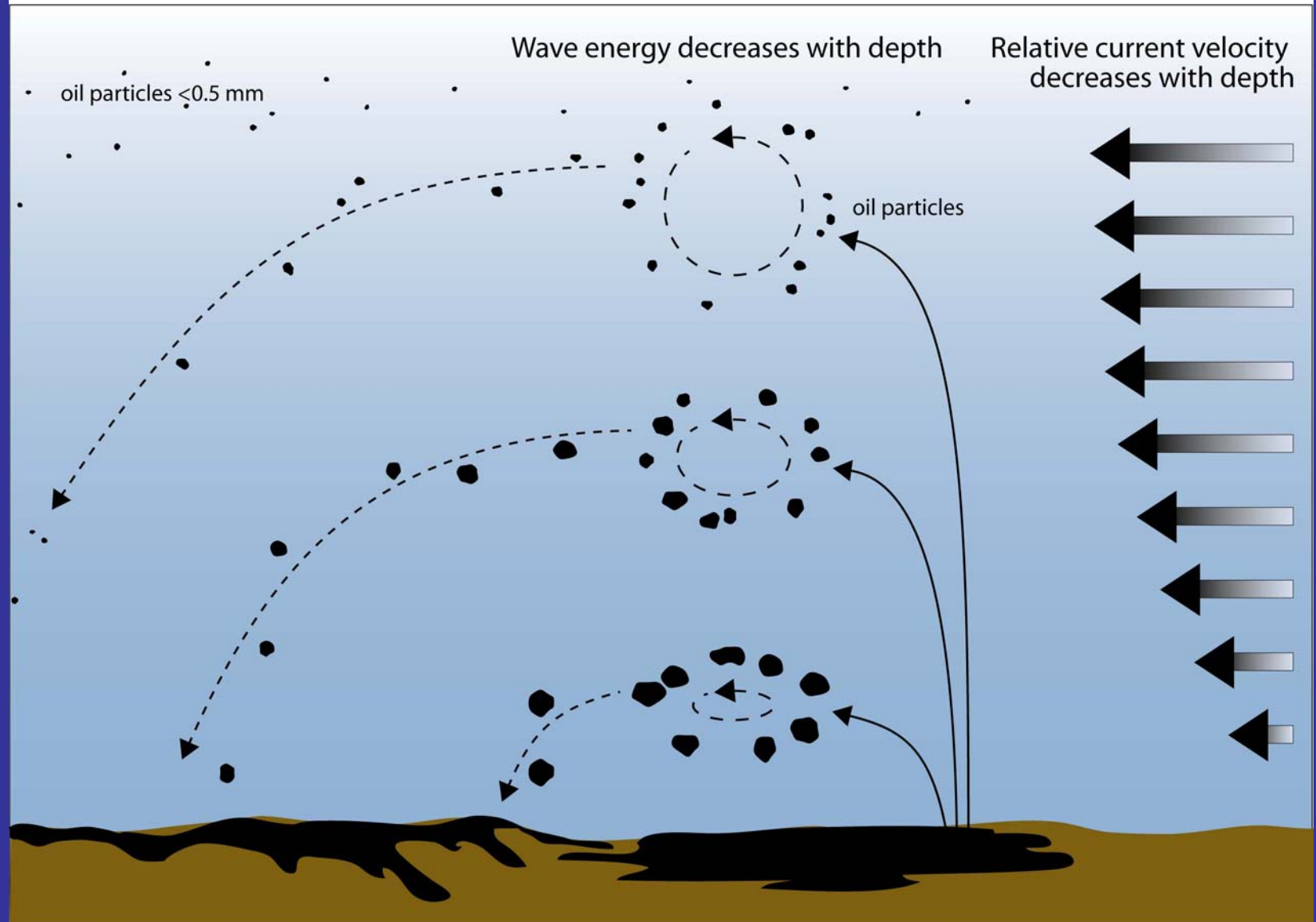


Effects of Wave Energy

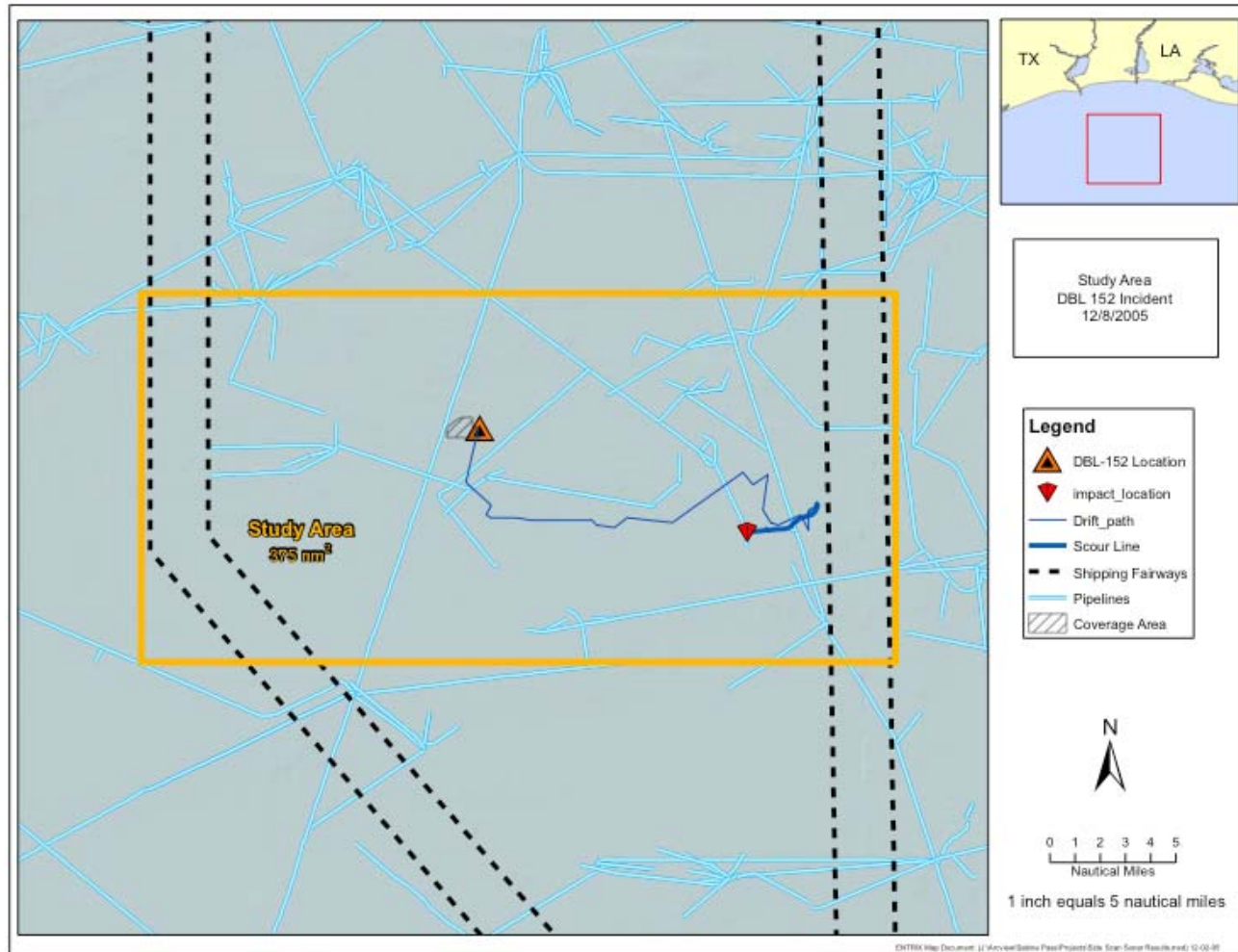


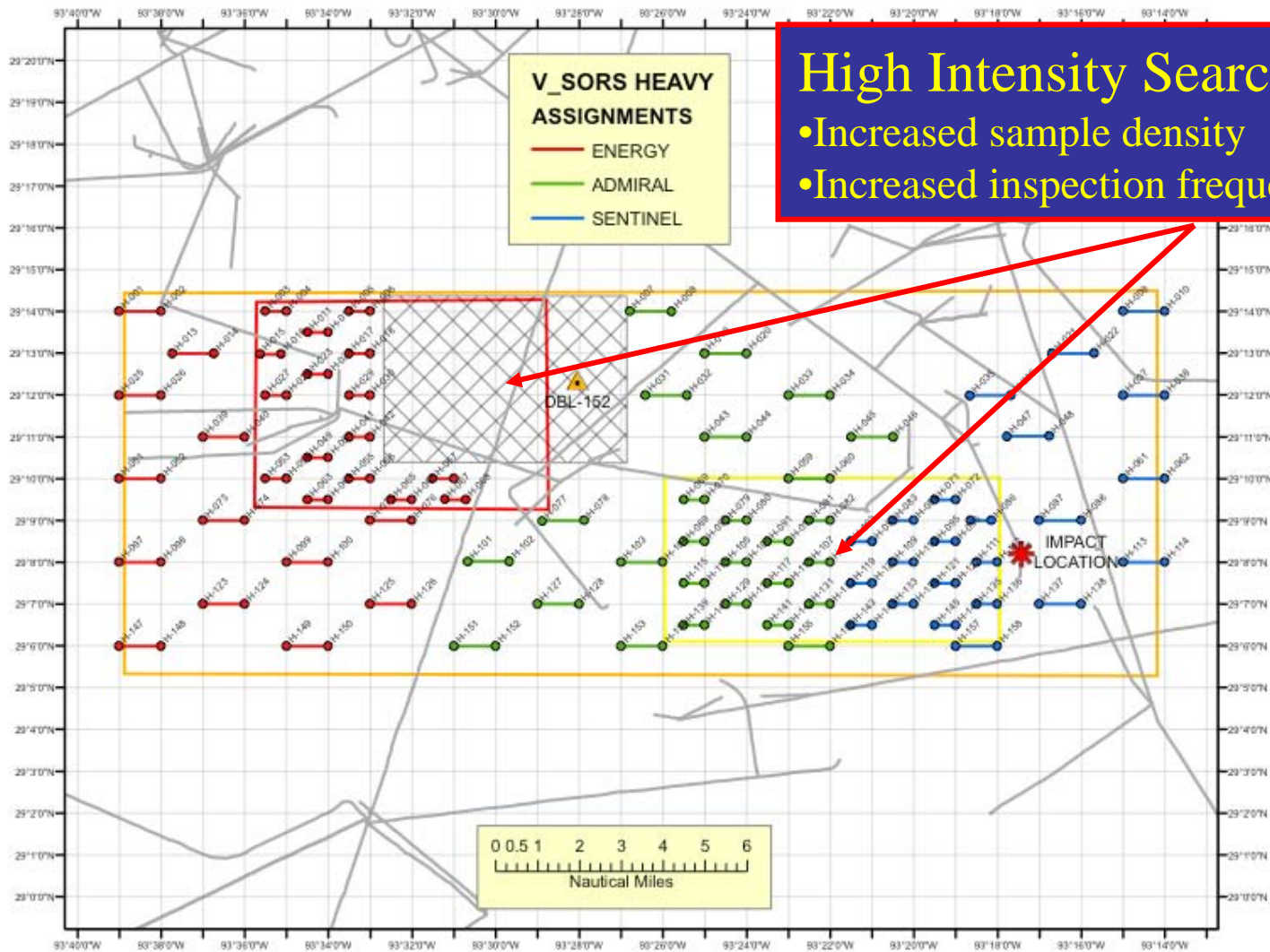
- Energy at bottom increases with wave period
- Energy increases with wave height
- Energy decreases with depth and bottom friction
- Orbit oblates (flattens) closer to ocean floor
- Horizontal transport is primarily a function of currents, not wave energy
- Enough wave energy can re-suspend the oil
- Smaller particles will travel further than larger particles because they fall slower
- Very small particles (grains of sand) may stay suspended

Re-suspension and Transport of T/B /DBL-152/ Oil



We could not look everywhere ...
A systematic sampling approach quantifying oil distribution.





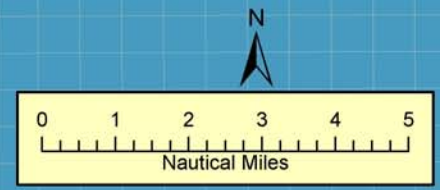
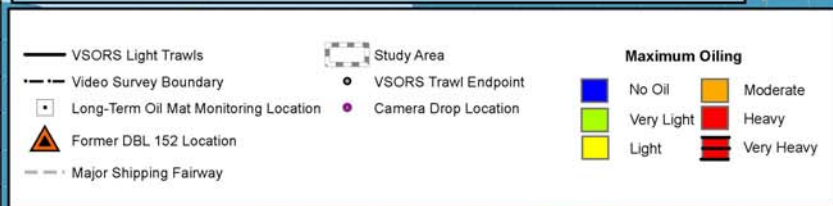
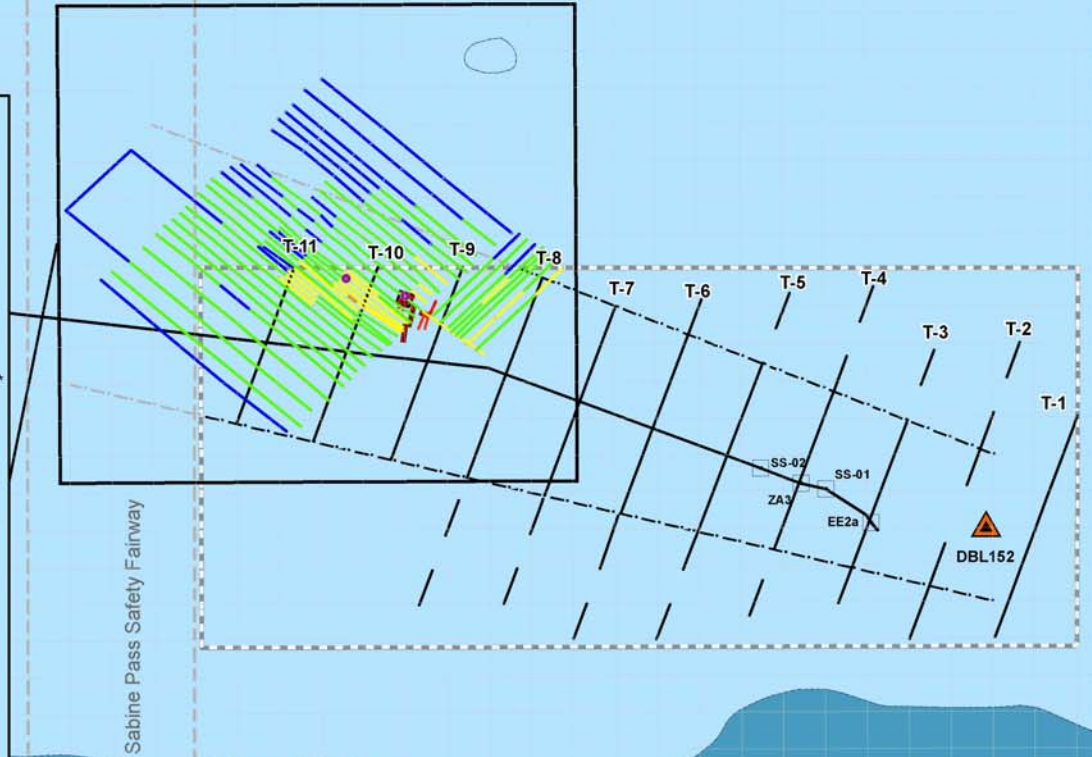
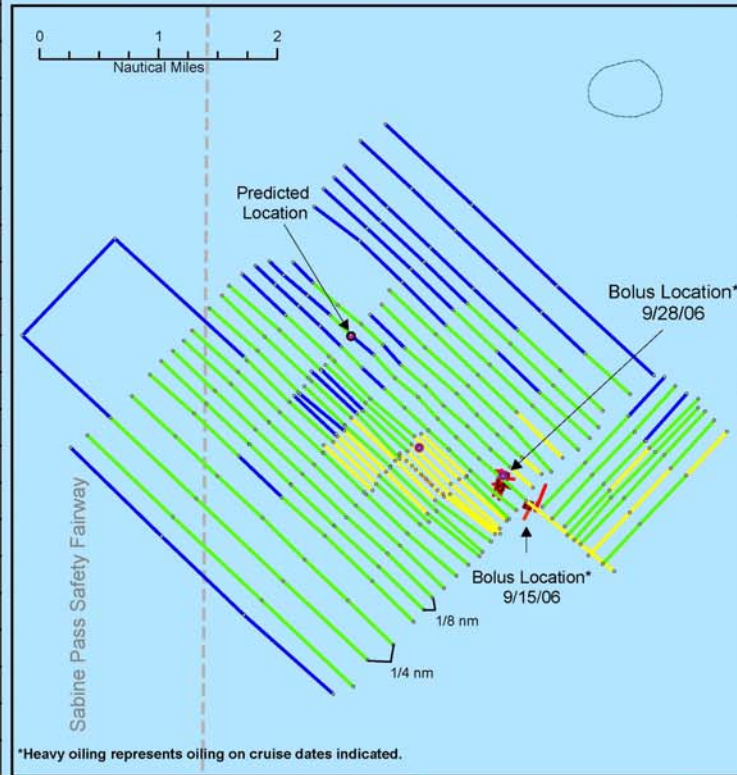
High Intensity Search Areas

- Increased sample density
- Increased inspection frequency

The "BOLUS"

DBL 152 Oil Spill Incident
Bolus Long-Term Monitoring Program
BOLUS DELINEATION MAP
5-6 & 12-14 December 2006 Cruises

ENTRIX
ENVIRONMENTAL CONSULTANTS



Video Monitoring Plan



Sled



VSOR-light

Today

- NRDA is in progress, near complete
- No indication of re-oiling on the Texas coast





**Thank You
Questions ?**